CITY OF LINCOLN, NEBRASKA, STANDARD SPECIFICATIONS

Chapter 20

CONSTRUCTION FOR UTILITIES AND STRUCTURES

CHAPTER 20

CONSTRUCTION FOR UTILITIES AND STRUCTURES

20.00 GENERAL

Construction for utilities and structures shall include the excavation of all materials necessary to complete the work in accordance with the plans and these Specifications; all necessary sheeting, shoring and bracing; and any pumping that may be necessary to keep the trench free from water. Construction for utilities and structures shall also include the removal and replacement of pavement, driveways and sidewalks; disposal of surplus materials, borrow, maintenance and protection of excavation, and the restoration of all surfaces to a satisfactory condition.

These Specifications shall apply to all utility and structure work regardless of the type of work being performed.

20.01 RELATED WORK SPECIFIED ELSEWHERE

Chapter 1	Pavement Construction and Reconstruction
Chapter 2	Clearing and Grubbing
Chapter 10	Crushed Rock Surfacing
Chapter 11	Portland Cement Concrete
Chapter 21	Storm Sewers
Chapter 22	Sanitary Sewers
Chapter 23	Water Mains
Chapter 24	Signal and Street Lighting
Chapter 25	Ornamental Street Lighting
Chapter 30	Sodding and Seeding
Chapter 32	Soil erosion control

20.02 MATERIALS

The following materials are approved for use in the City of Lincoln pursuant to the specifications described herein. Alternate materials maybe requested in writing to the Director of Public Works and Utilities.

A. SMOOTH STEEL PIPE CASING

Smooth steel pipe used for encasement shall be of the diameter, length, and wall thickness shown on the Plans. The encasement shall be new welded steel pipe conforming to ASTM Designation A 139, Grade B. All joints shall be welded.

B. CORRUGATED METAL PIPE

Corrugated metal pipe used for encasement shall be copper steel galvanized and shall conform to the requirements of AASHTO "Standard Specifications for Corrugated Metal Culvert Pipe", Designation M-36, and shall be of the diameter, length and gauge as shown on the Plans.

20.02 MATERIALS (Continued)

C. CORRUGATED METAL TUNNEL LINER

Corrugated metal tunnel liner plate shall be copper steel galvanized and shall conform to the requirements of AASHTO "Standard Specification for Structural Plate for Pipe, Pipe-Arches and Arches", Designation M-167, and shall be of the diameter, length and gauge shown on the Plans.

D. KILN DRIED SAND

Kiln dried sand shall be of the same gradation as plaster sand as provided in Chapter 11 of these Specifications. The sand shall be dried thoroughly so the sand will flow freely into any voids within the confines of the bore hole or casing.

E. BEDDING AND FOUNDATION MATERIAL

Bedding material and foundation material shall conform to the requirements of ASTM "Standard Specifications for Concrete Aggregates", Designation C-33. The gradation for foundation material shall be size Number 357 (2“ to #4). Bedding material shall be a well graded "crusher run" crushed rock or crushed concrete with a percent passing gradation range of 1"-100, 3/4"-90 to 100, #4- 40 to 60, and #200 - 0 to 10 unless otherwise designated on the plans or Special Provisions or directed by the Engineer. The requirement for soundness and durability of foundation and bedding material do not apply to this material.

F. GROUT

The grout shall be mixed in the volumetric proportions of two (2) parts portland cement, one (1) part fly ash, and not to exceed six (6) parts sand. Enough water shall be used to produce a pumpable grout.

G. FLOWABLE FILL

Flowable fill material shall meet the requirements of Chapter 11 of these specifications.

20.03 EARTHWORK

A. CLEARING AND GRUBBING

Clearing and grubbing shall be accomplished as provided in Chapter 2 of these Specifications.

B. TREE REMOVAL

The removal of trees and stumps shall be accomplished as provided in Chapter 2 of these Specifications.

20.03 EARTHWORK (Continued)

C. EXCAVATION

In general, all excavation shall be made by open cut from the surface of the ground and at the width and to the depth necessary for the proper construction of the utility and its appurtenances, according to the plans and these Specifications. The work shall be performed in accordance with Occupational Safety and Health requirements. Nothing contained in these Specifications or Contract Documents shall relieve the Contractor from complying with any Local, State, or Federal safety requirements. The work shall be performed within the limits of construction as shown on the plans. All necessary precautions must be made to prevent slides and cave-ins. Bracing or sheeting, shall be provided to maintain the sides and bottom of the trench in unstable material.

The excavated material shall be handled in such a manner as to cause a minimum of inconvenience to public travel and to permit safe and convenient access to public and private property along the line of work. Access shall be provided at all times to fire hydrants and water valves in the vicinity of the work and fire fighting equipment shall have access to any structure at all times. Trenches shall not be opened more than 100 feet in advance of the installed utility or as directed by the Engineer. All trenches shall be backfilled as soon as practical after the pipe is in place, or as ordered by the Engineer. Unless otherwise specified or authorized by the Engineer, all excavated material shall be placed on the roadway side of the trench.

Holes for pipe bells shall be provided at each joint, but shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the trench bottom. Other than the bell holes, the trench bottom shall be true and even in order to provide support for the full length of the pipe barrel.

Excavation below subgrade with subsequent refilling with loose earth will not be permitted. Should the Contractor inadvertently excavate below subgrade, such over excavation shall be filled and brought up to grade with compacted soil, crushed rock, or sand or gravel as approved by the Engineer.

The width of the utility trench at the top of the pipe shall be no greater than the width specified in the standard bedding details. Excessive trench width may be cause for providing a higher class bedding at no cost to the City. The width of excavation for utility lines 6 inches or greater in diameter shall be a minimum of 3 feet. In no case shall the excavation be less than 2 feet greater than the outside diameter of the pipe or the outside dimensions of the structure to be built. The bottom of all excavations shall be finished to the true profile grade, of full width, and cleared of any rocks, clods, roots, or other material that may interfere with properly placing the pipe or structure.

No measurement or direct payment will be made for any excavation required as part of the work. The costs of excavation will be considered subsidiary to other items for which direct payment is made.

20.03 EARTHWORK (Continued)

D. BACKFILL

Backfilling and compaction of excavations shall follow as closely after the construction as possible. All excavations shall be backfilled with approved material up to the original surface of the ground unless otherwise indicated on the plan. No backfill shall be made with material containing stone, large clods, frozen earth or debris of any kind. The backfill shall be placed in loose lifts not to exceed the thickness required to attain 12 inch thick compacted layers or as noted in a geotechnical report signed and sealed by an Engineer registered in the State of Nebraska.

Backfilling shall not be done in freezing weather, except by permission of the Engineer, nor shall any fill be made where the material already in the trench is frozen. If construction proceeds at any time when frozen material is encountered and frozen material is placed in the trench line, all such trenches shall be re-compacted in the spring after frost conditions are no longer present in the ground. This re-compaction of the trench shall include the removal of all material to a depth of 12 inches below the depth of the frozen material and the replacement and re-compaction of the trench to the proper grade with suitable material. Care shall be exercised in backfilling so as not to damage any finished work. The backfill shall be brought up evenly on both sides of the utility or structure.

Backfilling against any concrete structure shall not be started until test specimens of the concrete develop a compressive strength of at least 2000psi.

Unless otherwise directed by the Engineer, compaction of backfill within 3 feet of all structures and utility appurtenances, including but not limited to, valves, hydrants, manholes, and inlets, shall be accomplished by hand methods using the appropriate equipment for the soil type(s) encountered.

Jetting or hydro-flushing of the backfill shall not be permitted. Care shall be taken to ensure that the utility is properly bedded with material of an approved density or in accordance with Section 20.06 of these Specifications. The initial 12 inches of backfill above the top of the pipe shall be carefully placed to protect the pipe bedding from further backfilling operations.

Backfill shall be compacted to a minimum density of ninety-five percent (95%) of the maximum dry density of the material as determined by AASHTO Method T-99. The moisture content of the soils shall be between two percent (2%) below and four percent (4%) above the optimum moisture content as determined by the above test.

When the moisture content of the material is too low to obtain specified density, sufficient water shall be added to the material and/or lift thickness shall be decreased before compaction.

After backfilling, the work area shall be kept maintained in a smooth and well drained condition.

BASIS OF PAYMENT

No measurement or direct payment will be made for any backfilling or compaction required as a part of this work. The costs of backfilling and compaction will be considered subsidiary to other items for which direct payment is made. When directed by the Engineer, additional water shall be mixed in with backfill materials to allow compaction to be completed. Such water quantities shall be paid as a fixed cost "**EXTRA WORK**" item at the current price indicated on LSP #185. Lincoln Water System hydrant meter readings immediately before/after the addition of water shall establish the volume of water used.

E. MAINTENANCE AND PROTECTION OF EXCAVATIONS

Temporary support, adequate protection and maintenance of all underground and surface utilities, structures, drains, sewers, and other obstructions encountered in the progress of the work shall be furnished by the Contractor at Contractor's own expense. Contractor shall take all reasonable precautions to prevent movement of the sides of such excavations. The Contractor shall protect all excavations from surface water by the construction of adequate dikes. The Contractor shall furnish and put in place such sheeting and bracing as may be required to support the sides of the excavations and the Contractor shall remove such sheeting and bracing as the trenches or excavations are filled. The Engineer may order the sheeting be left in place if, in the Engineer's opinion, the utility or structure might be damaged by its being removed.

In lieu of sheeting and bracing, the Contractor may use a trench box of adequate design during the construction of the utility to protect the utility and all personnel.

The Contractor shall satisfy the Engineer that the proposed methods of bedding and foundation material placement is in compliance with the requirements of the Standard Drawings for pipe bedding details when the trench box is moved. The Contractor shall protect the integrity of the pipe embedment zone when utilizing or moving the trench box.

No measurement or direct payment shall be made for maintenance and protection of excavations, except for sheeting left in place as required above. Payment for sheeting left in place shall be made as an extra work item. Such payment shall be the value of the sheeting minus the cost of removal. The cost of maintaining and protecting excavations shall be considered subsidiary to the other items for which direct payment is made.

F. DISPOSAL OF SURPLUS MATERIAL

The Contractor shall dispose of all surplus excavated material not needed for fills or other designated purposes. All material deemed unsuitable by the Engineer shall be disposed of properly and replaced with approved material.

No measurement or direct payment shall be made for disposal or stock piling surplus materials. The costs of disposal or stock piling surplus materials shall be considered subsidiary to the other items for which direct payment is made.

20.03 EARTHWORK (Continued)

F. DISPOSAL OF SURPLUS MATERIAL (Continued)

All material deemed unsuitable by the Engineer and required to be removed from the job site, as well as approved replacement material not readily available at the job site, shall be measured and paid for as an extra work item.

G. SOIL EROSION CONTROL

Soil Erosion Control shall be accomplished as provided in Chapter 32 of these Specifications.

20.04 UTILITY ALIGNMENT AND GRADE

Prior to excavation, investigation shall be made to the extent necessary to determine the location of underground structures and utilities. Care shall be exercised by the Contractor during excavation to avoid damage to existing structures or utilities. Where shown on the plans, or as requested by the Engineer, the Contractor shall make such excavation as may be necessary to ascertain the vertical and horizontal location of existing utilities.

The utilities and structures shall be constructed and maintained to the lines and grades established by the plans and Specifications. When crossing existing utilities or other structures, alignment and grade may be adjusted by the Engineer to provide clearance as required or deemed necessary to maintain minimum clearance, or to prevent future damage or contamination of either utilities or structures.

20.05 GROUND WATER

The Contractor shall provide and maintain adequate equipment to remove and dispose of ground water entering the excavations, trenches, or other parts of the work. Each excavation shall be kept dry during subgrade preparation and continually thereafter until the structure to be built, or the pipe to be installed therein, is completed to the extent that no damage from hydrostatic pressure, flotation or other cause will result.

All excavations for concrete structures or trenches which extend down to or below ground water shall be dewatered by lowering and keeping the ground water below the bottom of the pipe or as required to maintain a stable foundation.

The Contractor will be held responsible for the condition of any existing storm sewer system which may be used for drainage purposes on this contract, and all storm sewers shall be left clean and free of sediment. The Contractor shall not pump or drain any ground water or surface runoff into any part of the sanitary sewer system.

No measurement or direct payment shall be made for removal and disposal of ground water unless otherwise provided in the proposal or Special Provisions. The costs of removal and disposal of ground water shall be considered subsidiary to the other items of work for which direct payment is made.

20.06 FOUNDATION AND BEDDING

Foundation and bedding materials shall consist of crushed stone meeting the requirements of Section 20.02 of these Specifications. Gradation of the crushed stone may vary at the discretion of the Engineer in accordance with the classification or condition of the soil upon which the foundation and/or bedding material is placed.

Foundation materials generally will be required where unstable soil conditions exist at the bottom of the trench. Size may be varied at the option of the Engineer, but in no case shall the maximum size exceed 4 inches.

After the pipe has been properly placed to grade and line on the bedding course, additional bedding material shall be placed and compacted as called for on the plans. In areas where sheet piling or trench box is required to maintain vertical trench walls, and/or where flexible pipe is to be installed the bedding material shall extend from the top of the foundation course to a minimum of 18 inches above the top of the pipe.

The bedding material shall be placed in 6 inch lifts and thoroughly settled by mechanical compaction in order to fill all voids below, around, and above the top of the pipe as shown on the Standard Details for pipe bedding.

Foundation material depths and sizes may be changed or eliminated only with prior approval of the Engineer.

BASIS OF PAYMENT

No measurement or direct payment shall be made for bedding material, except that all weight tickets for bedding material shall be submitted prior to any payment for pipe being installed. The cost of bedding materials, in the appropriate classes for the type of pipe material utilized, as shown on the drawings or for the structures constructed, shall be considered subsidiary to the other items of work for which direct payment is made.

Foundation material when placed in conformance with these Specifications as directed by the Engineer shall not be measured, but shall be paid as a fixed cost "**EXTRA WORK**" item at the current price indicated on the Lincoln Standard Plans (LSP # 185). Weight tickets for material installed shall be submitted prior to any payment for this extra work item. This extra work payment shall be full compensation for furnishing all materials, installation, labor, equipment, tools and incidentals necessary to create a stable foundation.

20.07 BORING THE UTILITY PIPE

A. BORING

Where shown on the plans, the excavation shall be made by means of bore holes. The bore holes shall generally be made using mechanical augers of either the wet or dry type. Any annular space between the casing or the carrier pipe and the bore hole in excess of 5/8 inch shall be filled with pressure grout or other suitable material as directed by the Engineer. The boring shall be accomplished in such a manner as to interfere as little as possible with the railroad, roadway, utility, tree or structure being bored.

20.07 BORING THE UTILITY PIPE (Continued)

B. CASING PIPE

Where shown on the plans, the casing pipe shall be installed in the bore hole by mechanically pushing the casing into the hole, either simultaneously with or after the boring operation. Steel casing shall be installed in a bore hole with a maximum clearance of 5/8 inch. Corrugated metal encasement shall have a maximum clearance of 2 inches.

Corrugated metal encasement shall be provided with 2 inches diameter grout plugs at a maximum spacing of 10 feet centers along the top centerline of the encasement. After installation, the entire length of encasement shall be pressure grouted using a mixture of two (2) parts Portland cement, one (1) part fly ash, six (6) parts sand, and water.

The carrier pipe shall be installed, jointed, and shored inside the encasement in such a manner as to maintain grade and alignment so there will be no damage to the encasement coating or to the carrier pipe. The carrier pipe shall be supported and braced within the encasement pipe by using factory manufactured casing chocks. The number of chocks and spacing shall be per pipe manufactures recommendation for specific pipe size. Other proposed methods of installation shall be approved by the Engineer prior to construction.

BASIS OF PAYMENT

1. Boring for carrier pipes completed in conformance with these Specifications and accepted by the Engineer shall be measured and paid for at the contract unit price bid per linear foot for BORING FOR_____PIPE, for each size and type called for in the Contract Documents. Such payment shall be full compensation for all materials, equipment, tools, labor and incidentals necessary to produce the bore hole and for filling the resulting annular space around the carrier pipe when required in the Contract Documents. Carrier pipe of the various sizes and materials required to be placed in the bore hole shall be paid for as provided in the appropriate technical chapters.

2. Casing pipe bored in place in conformance with these Specifications and accepted by the Engineer shall be measured and paid for at the contract unit price bid per linear foot for _____ CASING, BORED IN PLACE, for each size and gauge called for in the Contract Documents. Such payment shall be full compensation for all materials, equipment, tools, labor and incidentals necessary to produce the bore hole, and install the casing pipe. Carrier pipes placed in casing pipes shall be paid for separately according to the various Chapters of these Specifications associated with the type of utility being constructed.

20.08 JACKING

Where shown on the plans the pipe shall be installed by jacking into place. The maximum allowable force on the pipe shall be per manufacture's recommendation. The material to be excavated shall not be removed more than 3 feet ahead of the leading edge of the pipe being jacked. Extreme care shall be taken to be sure that pipe is on line and grade as the jacking progresses. Any annular voids in excess of 5/8 inch shall be filled by pressure grouting.

20.08 JACKING (Continued)

BASIS OF PAYMENT

Utility pipe jacked in place in conformance with these Specifications and accepted by the Engineer shall be measured and paid for at the contract unit price bid per linear foot for _____ PIPE, JACKED IN PLACE, for each size and gauge called for in the Contract Documents. Such payment shall be full compensation for all materials, equipment, tools, labor and incidentals necessary to install the carrier pipe on line and grade, complete, including any temporary jacking blocks, sheeting, shoring, pressure grouting equipment and grout. The maximum length of jacking which shall be considered for payment is the plan quantity unless specifically authorized by the Engineer.

20.09 TUNNELING

Where shown on the plans the excavation shall be made by means of tunneling. Care shall be taken during installation to maintain alignment and grade and the shape of the tunnel. Adequate lighting and ventilation shall be maintained to provide a safe environment for the workers. Unless otherwise provided in the Contract Documents, the tunnel shall not be excavated more than 12 inches beyond the length of the segments of lines to be installed.

A. TUNNEL LINER PLATE

Adequate means shall be provided to keep the work free from water.

Steel tunnel liner plates shall be designed so that erection and assembly can be accomplished entirely from inside the tunnel. Liner plates shall be capable of withstanding the ring thrust load and transmitting this from plate to plate. The clear inside diameter of tunnel liners shall be within 4 inches of the nominal diameter indicated on the drawings.

Longitudinal joints in adjacent rings shall be staggered and not in alignment more often than every second ring.

Sufficient sections shall be provided with 1 5/8 inch or larger grouting holes, located near the centers, so that when the plates are installed there will be one line of holes on each side of the tunnel and one at the crown. The lower line of holes on each side shall not be more than 20 inches above the invert. The holes in each line shall not be more than ten feet apart and shall be staggered. All space between the lining and the earth shall be filled with grout forced in under pressure. The grout shall be mixed in the volumetric proportions of two (2) parts portland cement, one (1) part fly ash, and not to exceed six (6) parts sand. Enough water shall be used to produce a pumpable grout. As the pumping through any hole is stopped, it shall be plugged to prevent backflow of grout. Grouting shall be performed in a sequence which will preclude deflections exceeding five percent (5%) of the tunnel diameter.

20.09 TUNNELING (Continued)

B. STABILIZED SAND BACKFILL

After installation of the pipe in the tunnel, the entire annular space between the pipe and the tunnel walls shall be filled with stabilized sand. Stabilized sand shall be mixed in the proportions of at least three (3) sacks of portland cement for each cubic yard of sand. Stabilized sand shall be thoroughly mixed in a mechanical mixer and shall contain only enough water to produce an easily handled mixture. Stabilized sand shall be pumped into the casing so that all space is filled.

C. PAVED INVERT

The bottom portion of each casing constructed using tunnel liner plates shall be provided with a paved invert.

D. PLUGGING OF TUNNEL LINER

The annular space between the carrier pipe and the tunnel liner shall be plugged at each end of the tunnel liner using a water tight material.

BASIS OF PAYMENT

Tunneling and liners constructed in conformance with these Specifications and accepted by the Engineer shall be measured and paid for at the contract unit price bid per linear foot for ____" TUNNEL LINER PLATE, ___ GAUGE, INSTALLED, COMPLETE, for each size and gauge called for in the Contract Documents. Such payment shall be full compensation for all excavation, tunnel liner plates, grouting, other materials, equipment, tools, labor and incidentals necessary to install the tunnel liner.

20.10 DIRECTIONAL DRILLING

Where shown on the plans, the excavation shall be made by means of directional drilling. Directional drilling shall generally be made by drilling a small pilot hole along the designated path, enlarging of the pilot hole and pulling the pipe into place. Directional drilling is accomplished by utilizing specialized horizontal drilling rig with ancillary tools and equipment.

The Directional Drilling shall be accomplished in such a manner as to interfere as little as possible with the railroad, roadway, utility, tree or structure being directional drilled.

The contractor shall submit a tabulation of the pilot hole survey requirements, and the plan/profile drawings of the documented as-built location.

20.10 DIRECTIONAL DRILLING (Continued)

BASIS OF PAYMENT

Directional Drilling for carrier pipes completed in conformance with these Specifications and accepted by the Engineer shall be measured and paid for at the contract unit price bid per linear foot for DIRECTIONAL DRILLING FOR_____PIPE, for each size and type called for in the Contract Documents. Such payment shall be full compensation for all materials, equipment, tools, labor and incidentals necessary to produce the directional drill and install the carrier pipe when required in the Contract Documents.

20.11 PAVEMENT CONSTRUCTION AND RECONSTRUCTION

Pavement reconstruction and miscellaneous masonry reconstruction shall be accomplished in conformance with Chapter 1 of these Specifications.

20.12 FINAL CLEANUP

A. GRAVEL OR ROCK ROADWAY SURFACE

Where the work of the Contract crosses or is parallel to any unpaved roadway and where the roadway surface is affected in any way by operations under the contract, the Contractor shall repair and restore the same to at least its original condition. Such restoration shall include, but not be limited to, regrading ditches and roadway surface, restoration of culverts and drives, and placement of rock or gravel surfacing as directed by the Engineer.

The cost of regrading ditches, roadway surfaces, and drives shall not be paid for directly but shall be considered subsidiary to other items of work for which direct payment is made. Culverts required to be removed and relaid shall be measured and paid for as provided in Section 21.04 of these Specifications. Crushed rock or gravel surfacing shall be measured and paid for as provided in Chapter 10 of these Specifications.

B. FINAL CLEANUP AND PARKING SPACE FINISH

When all other work has been completed, the Contractor shall thoroughly clean all pavement, parking spaces, sidewalks, rights-of-way, storage areas, access roads, and private property of all earth and other debris by use of approved equipment. All pavement, parking spaces, sod, sidewalks, storage areas, access roads and private property shall be restored to a condition at least equal to that existing prior to any operations under this Contract.

No measure or direct payment shall be made for cleanup or parking space finish. The costs of cleanup and parking space finish shall be considered subsidiary to other items for which direct payment is made.

C. SODDING AND SEEDING

Sodding and seeding shall be accomplished as provided in Chapter 30 of these Specifications.

20.13 COLD WEATHER CONSTRUCTION

A. LIMITS OF CONSTRUCTION

Work to be performed in developed areas, or work affecting the operation, capacity, and safety of arterial and collector streets, between December 1 and March 15, shall be limited by the following provisions:

1. A maximum of 650 linear feet within the limits of the project may be under construction at one time.

2. A maximum of two (2) intersections may be closed at one time within project limits, even though the third intersection may not violate the 650 foot limit described in Paragraph 1 above.

3. "Under Construction" shall include all operations which disrupt or limit the use of public facilities, such as pavement removal, sidewalk removal, excavation, backfilling, pipe laying, material storage, equipment storage, and/or any other operation deemed by the Engineer as a disruption of normal ingress and egress to the public right- of-way within project limits.

4. Temporary restoration will be required to reduce long-term disruptions and inconvenience during construction. Two (2) weeks after beginning work in an area, the Engineer shall require temporary restoration of facilities by the Contractor. The entire cost of installation, maintenance, and removal of such temporary installations shall be the Contractor's responsibility. Crushed rock, properly maintained, will be acceptable for temporary restoration of sidewalks and driveways, whereas temporary concrete of 4 inches minimum thickness will be required for pavement restoration.

B. SUSPENSION OF WORK

Suspension of work during the winter construction period, December 1 to March 15, may be requested by the Contractor under the following conditions:

1. The request must be made in writing to the City Engineer and shall include the beginning date and duration. If work is to be resumed prior to expiration of time requested, forty-eight (48) hours written notice of such intent will be required.

2. The Contractor shall be required to restore all vehicular and pedestrian facilities to full use by either permanent or temporary restoration before the suspension period will become effective.

3. Calendar days included in the period that work is actually suspended shall be counted from the effective suspension date, and the governing completion date shall be adjusted accordingly.

In no case shall a granted suspension of work be cause for requesting or granting additional calendar days for completion of this Contract.

B. SUSPENSION OF WORK (Continued)

The Engineer shall state to the Contractor, in writing, the effective suspension date and the date on which the suspension expires.

In addition, following the suspension period, the Engineer shall notify the Contractor, in writing, of the new completion date of the Contract as provided above.

20.14 SUBSTANTIAL COMPLETION

Refer to Chapters 21 through 23 for a specific definition of Substantial Completion for each type of utility work.

20.15 FINAL ACCEPTANCE

Refer to Chapters 21 through 23 for a specific definition of Final Acceptance for each type of utility work.

20.16 GUARANTEE

Refer to Chapters 21 through 23 for a specific definition of guarantee for each type of utility work.